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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,852	07/10/2003	Yusuke Shiota	2003_0948	9997

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WASHINGTON, DC 20006-1021

EXAMINER

HRUSKOCI, PETER A

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/615,852

Applicant(s)

SHIOTA ET AL.

Examiner

Peter A. Hruskoci

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2004 and 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 5-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/753,682.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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Claims 6, 7, 12-17, 19, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 6 and 7 "one" appears to be erroneous and should be changed to - one element -. In claim 12 "location" appears to be erroneous and should be changed to - locations -. In claim 13 and 16 "when starting up" and "when suspending", in claims 14 and 19 "so as...remained", in claim 15 "during", and in claims 17 and 20 "when supplying" are vague and indefinite because it is unclear how these terms further limit the claims. In claim 13 "the time" lacks clear antecedent basis.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yan 5,552,063 in view of McBrayer et al. 5,720,889. Yan disclose (see col. 4 line 56 through col. 8 line 60) a method for oxidizing substances in waste water substantially as claimed. The claims differ from Yan by reciting an oxygen concentration in an exhaust gas is controlled in a specific range. McBrayer et al. disclose (see col. 19 lines 35-62) that it is known in the art of water treatment to utilize a detection means to determine an oxidant content in a effluent gas from an oxidation reactor, to aid in regulating oxidant injection and maintain the oxidant content in a specific range. It would have been obvious to one skilled in the art to modify the method of Yan by controlling the oxygen concentration in an exhaust gas in view of the teachings of McBrayer et al., to aid regulating oxidant injection into the waste water. The specific oxygen

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concentration, pore volume, surface area, and oxygen supply ranges utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific waste water treated and results desired, absent a sufficient showing of unexpected results. With regard to claim 11, it is submitted that Yan as applied above appears to teach a concurrent flow of waste water and oxygen through the catalyst. With regard to claim 12, it is submitted that McBrayer et al. as applied above appear to teach the supply of oxygen from at least two locations.

Claims 13-15 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yan 5,552,063 in view of JP9010602 Maeda et al. or JP58114733 Moritake et al.. Yan disclose (see col. 4 line 56 through col. 8 line 60) a method for oxidizing substances in waste water substantially as claimed. The claims differ from Yan by reciting that a catalyst protection or recovering liquid is supplied to the wet oxidation. Maeda et al. (see Abstract) and Moritake et al. (see Abstract) that it is known in the art of water treatment to utilize regenerating solutions in a wet oxidation treatment of waste water, to aid in regenerating a catalyst. It would have been obvious to one skilled in the art to modify the method of Yan by supplying the recited catalyst protection or recovering liquid in view of the teachings of Maeda et al. or Moritake et al., to aid regenerating the catalyst. The specific catalyst protection and recovering liquid, and oxygen supply ranges, and temperatures utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific waste water treated and results desired, absent a sufficient showing of unexpected results.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yan 5,552,063 in view of JP9010602 Maeda et al. or JP58114733 Moritake et al. as above, and further in view of McBrayer et al. 5,720,889. The claim differs from the references as applied above by reciting an

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oxygen concentration in an exhaust gas is controlled in a specific range. McBrayer et al. disclose (see col. 19 lines 35-62) that it is known in the art of water treatment to utilize a detection means to determine an oxidant content in an effluent gas from an oxidation reactor, to aid in regulating oxidant injection and maintain the oxidant content in a specific range. It would have been obvious to one skilled in the art to modify the references as applied above, by controlling the oxygen concentration in an exhaust gas in view of the teachings of McBrayer et al., to aid regulating oxidant injection into the waste water. The specific oxygen concentration range utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific waste water treated and results desired, absent a sufficient showing of unexpected results.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter A. Hruskoci whose telephone number is (571) 272-1160. The examiner can normally be reached on Monday through Friday from 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0987.

  
Peter A. Hruskoci  
Primary Examiner  
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